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GALEN: THE MAN AND HIS TIMES

By Professor LYNN THORNDIKE

WESTERN RESERVE UNIVERSITY

FOR about fifteen centuries the name of Galen dominated the study of medicine. But at the close of the nineteenth century an English student of the history of medicine said, "Galen is so inaccessible to English readers that it is difficult to learn about him at first hand." Another wrote, "There is, perhaps, no other instance of a man of equal intellectual rank who has been so persistently misunderstood and even misinterpreted." A third obstacle has been that while critical editions of some single works have recently been published by Helmreich and others, no complete edition even of the Greek text of Galen has appeared since that of Kühn of a century ago, which is now regarded as very faulty. A fourth reason for neglect or misunderstanding of Galen is probably that there is so much by him to be read. Athenaeus stated that Galen wrote more treatises than any other Greek, and although many are now lost, more particularly of his logical and philosophical writings, his collected extant works fill some twenty volumes averaging a thousand pages each. There are often no chapter headings or other brief clues to the contents, which must be ploughed through slowly and thoroughly, since some of the most valuable bits of information come in quite incidentally or by way of unexpected digression. Besides errors in the printed text there are numerous words not found in most classical dictionaries. It is therefore perhaps not surprising, in the words of one of the English historians of medicine quoted above, that "few physicians or even scholars in the present day can claim to have read through this vast collection."

Yet Galen deserves to be remembered, not merely as one of the great names, but as one of most original minds and attractive personalities in all the long history of medicine. It is not difficult to make out the main events of his life, his works supply an unusual amount of personal information, and throughout them, unless he is merely transcribing past prescriptions, he talks like a living man, detailing incidents of daily life and making upon the reader a vivid and unaffected impression of reality. Daremburg said of Galen that the exuberance of his imagination and his vanity frequently make us smile. It is true that his pharmacology and therapeutics often strike the modern reader as ridiculous, but he did not imagine them; they were the medicine of his age. It is true that he mentions cases which he has cured and those

where other physicians have been at fault, but official war despatches do the same in the case of their own side's victories and the enemy's defeats. *Vae victis!* In Galen's case, at least, posterity long confirmed his own verdict. And dull or obsolete as much of his medicine now is, his scholarly and intellectual ideals and love of hard work are still a living force, while the reader of his pages often feels himself carried back to the Roman world of the second century.

Galen, who does not seem to have been called Claudius until the time of the Italian Renaissance, was born about 129 A. D. at Pergamum in Asia Minor. His father, an architect and mathematician, transmitted much of this education to his son, but even more valuable, in Galen's opinion, were his precepts to follow no one sect or party but to hear and judge them all, to despise honor and glory, and to magnify truth alone. To this teaching Galen attributed his own peaceful and painless passage through life. He did not grieve over losses of property but managed to get along somehow. He did not mind it much when some vituperated him, but thought instead of those who praised him. In later life Galen looked back with great affection upon his father as the gentlest, justest, most honest and humane of men. On the other hand, the chief lesson he learned from his mother was to avoid her failings of a sharp temper and tongue, whereby she made life miserable for their household slaves and scolded his father worse than Xanthippe ever did Socrates.

In one of his works Galen speaks of the passionate love and enthusiasm for truth which have possessed him since boyhood, so that he has not stopped either by day or by night from quest of it. He realized that to become a true scholar required both high natural qualifications and a superior type of education from the very first. After his fourteenth year he heard the lectures of various philosophers, Platonist and Peripatetic, Stoic and Epicurean; but when about seventeen, warned by a dream of his father, he turned to the study of medicine. The incident of the dream, like many other passages in Galen's works, shows that even men of the finest education and intellectual standards were not free from the current beliefs in occult influences. Galen first studied medicine for four years under Satyrus in his native city of Pergamum; then after his father's death, under Pelops at Smyrna, and later under Numisianus at Corinth and Alexandria. This was about the time that the great mathematician and astronomer, Ptolemy, was completing his observations in the neighborhood of Alexandria, but Galen does not mention him, despite his own belief that a first-rate physician should also understand such subjects as geometry and astronomy, music and rhetoric. Galen's interest in philosophy continued, however, and he wrote many logical and philosophical treatises, most of which are lost.

Galen returned to Pergamum to practice and was, when but twenty-nine, given charge of the health of the gladiators by five successive pontiffs. During his thirties came his first residence in Rome. In two of his works he gives two different explanations for his departure from the capital city. In one he says, "When the great plague broke out there (in the reign of Marcus Aurelius) I hurriedly departed from the city for my native land." In another his explanation is that he became disgusted with the malice of the envious physicians of the capital and determined to return home as soon as the sedition there was over. Meanwhile he gained great fame by his cures, but the jealousy and opposition of the other physicians multiplied, so that presently, when he learned that the sedition was over, he went back to Pergamum.

His fame, however, had come to the imperial ears and he was soon summoned to Aquileia, north of the Adriatic, to meet the emperors on their way north against the Germans who had invaded the frontier. An outbreak of the plague there prevented them from proceeding with the campaign immediately and Galen states that the emperors fled for Rome with a few troops, leaving the rest to suffer from the plague and the cold winter. On the way Lucius Verus died, and when Marcus Aurelius finally returned to the front, he allowed Galen to go back to Rome as court physician to his son Commodus. The prevalence of the plague at this time is illustrated by a third encounter which Galen had with it in Asia, when he claims to have saved himself and others by thorough venesection. The war in which Marcus Aurelius was engaged lasted much longer than had been anticipated and meanwhile Galen was occupied chiefly in literary labors. In 192 some of his writings and other treasures were lost in a fire which destroyed the Temple of Peace on the Sacred Way and the great libraries on the Palatine hill. Of some of the works which thus perished he had no other copy himself. He began one of his works on compound medicines of which two books had been already published all over again because most of the published copies had been destroyed in the fire. Galen was still alive and writing during the early years of the dynasty of the Severi and probably did not die until about 200.

Although the envy of other physicians at Rome and their accusing Galen of resort to magic arts and divination in his marvelous prognostications and cures were perhaps neither the sole nor the true reason for his temporary withdrawal from the capital, there probably is a great deal of truth in the picture he paints of the medical profession and learned world of his day. Too many other ancients, from Vitruvius, Pliny the Elder and Juvenal to Firmicus Maternus in the fourth century, substantiate his charges to permit us to explain them away as the product of personal bitterness or pessimism. We feel that these men lived in an intellectual society where faction and villainy, superstition

and petty-mindedness and personal enmity, were more manifest than in the quieter and, let us hope, more tolerant world of our time. The *status belli* may still characterize politics and the business world, but scholars seem able to live in substantial peace. Perhaps it is because there is less prospect of worldly gain for members of the learned professions than in Galen's day. Perhaps it is due to the growth of the impartial scientific spirit, of unwritten codes of courtesy and ethics within the leading learned professions, and of state laws concerning such matters as patents, copyright, professional degrees, pure food and pure drugs. Perhaps, in the unsatisfactory relations between those who should have been the best educated and most enlightened men of that time we may see a symptom of the general intellectual and ethical decline of the ancient world.

Galen states that many tire of the long struggle with crafty and wicked men which they have tried to carry on, relying upon their erudition and honest toil alone, and withdraw disgusted from the madding crowd to save themselves in dignified retirement. He especially marvels at the evil-mindedness of physicians of reputation at Rome. Though they live in the city, they are a band of robbers as truly as the brigands of the mountains. He is inclined to account for the roguery of Roman physicians compared to those in a smaller city by the facts that elsewhere men are not so tempted by the magnitude of possible gain, and that in a smaller town everyone is known by everyone else and so questionable practices cannot escape general notice. The rich men of Rome fall easy prey to unscrupulous practitioners who are ready to flatter them and to play up to their weaknesses. These rich men can see the use of arithmetic and geometry, which enable them to keep their books straight and to build houses for their domestic comfort, or of divination and astrology, from which they seek to learn whose heirs they will be; but they have no appreciation for pure philosophy aside from rhetorical sophistry.

Galen more than once complains that there are no real seekers after truth in his time, but that all are intent upon money, political power, or pleasure. You know very well, he writes to a friend in one of his works, that not five men of all those whom we have met prefer to be rather than to seem wise. Many who have no real knowledge make a great outward display and pretense in medicine and other arts. Galen several times expresses his scorn for those who spend their mornings in going about saluting their friends, and their evenings in drinking bouts or in dining with the rich and powerful. Yet even his friends have reproached him for studying too much and not "going out" more. But while they have wasted their hours thus, he has spent his, first in learning all that the ancients have discovered that is of value, then in testing and practicing the same. Moreover, now-a-days many are try-

ing to teach others what they have never accomplished themselves. Thessalus not only toadies the rich but secured many pupils by offering to teach them medicine in six months. Hence it is that tailors and dyers and smiths are abandoning their arts to become physicians. Thessalus himself, Galen ungenerously taunts, was educated by a father who plucked wool badly in female apartments. Indeed, Galen himself by the violence of his invective and the occasional passionateness of his animosity in his controversies with other individuals or schools of medicine, illustrates that state of war in the intellectual world of his age to which I have adverted.

I suggested that possibly learning compared to other occupations was more remunerative in Galen's day than in ours, but there were poor physicians and medical students then as well as those who were greedy for gain or who associated with the rich. Many doctors could not afford to use the rarer or stronger simples and limited themselves to easily procured, inexpensive, and homely medicaments. Many of his fellow students regarded as a counsel of perfection unattainable by them Galen's plan of hearing all the different medical sects and comparing their merits and testing their validity. These students said tearfully that this course was all very well for him with his acute genius and his wealthy father behind him, but that they lacked the money to pursue an advanced education, perhaps had already lost valuable time under unsatisfactory teachers, or felt that they did not possess the discrimination to select for themselves what was profitable from several conflicting sects or schools.

Galen was, it has already been made apparent, an intellectual aristocrat, and possessed little patience with those stupid men who never learn anything for themselves, though they see a myriad cures worked before their eyes. But that, apart from his own work, the medical profession was not entirely stagnant in his time, he admits when he asserts that many things are known today which had not been discovered before, and when he mentions some curative methods recently invented at Rome.

Galen supplies considerable information concerning the drug trade in Rome itself and throughout the empire. He often complains of adulteration and fraud. The physician must know the medicinal simples and their properties himself and be able to detect adulterated medicines, or the merchants, perfumers, and *herbarii* will deceive him. Galen refuses to reveal the methods employed in adulterating opobalsam, which he had investigated personally, lest the evil practice spread further. At Rome at least there were dealers in unguents who corresponded roughly to our druggists. Galen says that there is not an unguent-dealer in Rome who is unacquainted with herbs from Crete, but he asserts that there are equally good medicinal plants growing in

the very suburbs of Rome of which they are totally ignorant, and he taxes even those who prepare drugs for the emperors with the same oversight. He tells how the herbs come from Crete wrapped in cartons with the name of the herb written on the outside and sometimes the further statement that it is *campestris*. These Roman drug stores seem not to have kept open at night, for Galen speaks of the impossibility of procuring at once the medicines needed in a certain case, because "the lamps were already lighted."

The emperors kept a special store of drugs of their own and had botanists in Sicily, Crete, and Africa who supplied not only them with medicinal herbs, but, according to Galen, the city of Rome as well. However, the emperors appear to have reserved a large supply of the finest and rarest simples for their own use. Galen mentions a large amount of Hymettus honey in the imperial stores—*εν ταῖς αὐτοκρατορικαῖς ἀποθηκαῖς*—whence our word "apothecary." He proves that cinnamon loses its potency with time by his own experience as imperial physician. An assignment of the spice sent to Marcus Aurelius "from Barbary" was superior to what had stood stored in wooden jars from the preceding reigns of Trajan, Hadrian, and Antoninus Pius while after Commodus had exhausted this recent supply and Galen had to turn again to the older store in preparing an antidote for Severus, he found it still weaker than before. That cinnamon was a commodity little known to the populace is indicated by Galen's mentioning his loss in the fire of 192 of a few precious branches which he had stored away in a chest along with other personal treasures. He praises the Severi, however, for permitting others to use theriac, the noted compound medicine and antidote. Thus, he says, they not only as emperors have received power from the gods, but in sharing their goods freely they resemble the gods, who rejoice the more, the more people they save.

Galen himself, and the same seems to have been true of other physicians, was not content to rely for medicines either upon the unguent sellers or the bounty of the imperial stores. He stored away oil and fat, leaving them to age, until he had enough to last him for a hundred years, including some from his father's lifetime. He used some forty years old in one prescription. He also travelled to many parts of the Roman Empire and procured rare drugs in the places where they were produced. Very interesting is his account of going out of his way in journeying back and forth between Rome and Pergamum in order to stop at Lemnos and procure a supply of the famous *terra sigillata*, a reddish clay stamped into pellets with the sacred seal of Diana. On his way to Rome, instead of journeying on foot through Thrace and Macedonia, he took ship from the Troad to Thessalonica; but the vessel stopped in Lemnos at Myrine on the wrong side of the island—Galen had failed to realize that Lemnos had more than one port, and the

captain would not delay the voyage long enough to enable him to cross the island to the spot where *terra sigillata* was to be found. Upon his return from Rome through Macedonia, however, Galen took pains to visit the right port, and for the benefit of future travelers gives careful instructions concerning the route to follow and the distances between stated points.

Galen also describes the solemn procedure by which the priestess from the neighboring city gathered the red earth from the hill where it was found, sacrificing no animals, but wheat and barley to the earth. He brought away with him some twenty thousand of the little discs or seals, which were supposed to cure even lethal poisons and the bite of mad dogs. The inhabitants laughed, however, at the assertion which Galen had read in Dioscorides that the seals were made by mixing the blood of a goat with the earth. Berthelot, the historian of chemistry, believed that this earth was "an oxide of iron more or less hydrated and impure." C. J. S. Thompson, in a recent paper on "Terra Sigillata, a famous medicament of ancient times," tells of various medieval substitutes for the Lemnian earth, and of the interesting religious ceremony performed in the presence of Turkish officials on only one day in the year by Greek monks who had replaced the priestess of Diana. Pierre Belon witnessed this ceremony on August 6th, 1533, by which time there were many varieties of the tablets in existence, "because each lord of Lemnos had a distinct seal." When Tozer visited Lemnos in 1890, the ceremony was still performed annually on the same day, and must be completed before sunrise or the earth would lose its efficacy. Moslem *khodjas* now shared in the religious ceremony, sacrificing a lamb. But in the twentieth century the entire ceremony was abandoned. Through the early modern centuries *terra sigillata* continued to be held in high esteem in western Europe also, and was included in pharmacopeias as late as 1833 and 1848. Thompson gives a chemical analysis of a sixteenth century tablet of the earth and finds no evidence therein of its possessing any medicinal property.

To come back to Galen, in another passage he advises his readers, if they are ever in Pamphylia, to lay in a good supply of the drug *carpesium*. In a third passage he tells of three strata of sory, chalcite, and misy, which he had seen in a mine in Cyprus thirty years before and from which he had brought away a supply, and of the surprising alteration undergone by the misy in the course of those years. He speaks of receiving other drugs from Great Syria, Palestine, Egypt, Cappadocia, Pontus, Macedonia, Gaul, Spain, and Mauretania, from the Celts, and even from India. He names other places in Greece and Asia Minor than Mount Hymettus where good honey may be had. Much so-called Attic honey is really from the Cyclades, although it is brought to Athens and there sold or re-shipped. Similarly genuine

Falernian wine is produced in but a small section of Italy, but imitations are prepared by those skilled in such knavery. As the best iris is that of Illyricum and the best asphalt from Judaea, so the best petroselinos is that of Macedonia, and merchants export it to almost the entire world, just as they do Attic honey and Falernian wine. But the petroselinos crop of Epirus is sent to Thessalonica (Saloniki) and there passed off for Macedonian. The best turpentine is that of Chios, but a good variety may be obtained from Libya or Pontus. The best form of unguent was formerly made only in Laodicea, but now it is similarly compounded in many other cities of Asia Minor.

We are reminded that parts of animals as well as herbs and minerals were important constituents in ancient pharmacy by Galen's invective against the frauds of hunters and dealers in wild beasts as well as of unguent-sellers. They do not hunt the animals at the proper season for securing their medicinal virtues, but when they are no longer in their prime or just after their long period of hibernation, when they are emaciated. Then they fatten them upon improper food, feed them barley cakes to stuff up and dull their teeth, or force them to bite frequently so that virus will run out of their mouths. The beasts of course were also in demand for the games of the arena.

Besides the ancient drug trade, Galen gives us some interesting glimpses of the publishing trade, if we may so term it, of his time. Writing in old age, he says that he has never attached his name to his works and has never written for the popular ear or for fame, but fired by zeal for science and truth, or at the urgent request of friends, or as a useful exercise for himself, or, as now, in order to forget his old age. He regards popular fame as only an impediment to those who desire to live tranquilly and enjoy the fruits of philosophy. He asks Eugenianus not to praise him immoderately before men, as he has been wont to do, and not to inscribe his name in his works. His friends nevertheless prevailed upon Galen to write two treatises listing his works, and he also is free enough in many of his writings in mentioning others which it is essential to read before perusing the present volume. Perhaps he felt differently at different times on the question of fame and anonymity. He also objected to those who read his works, not to learn anything from them, but only in order to calumniate them.

It was in a shop on the Sacra Via that most of the copies of some of Galen's works were stored when they, together with the great libraries upon the Palatine, were consumed in the fire of 192. But in another passage he states that the street of the Sandal-makers is where most of the book-stores of Rome are located. There he saw some men disputing whether a certain treatise was his. It was duly inscribed *Galenus medicus* and one man, because the title was unfamiliar to him, had just purchased it as a new work by Galen. But another man who

was something of a philologer asked to see the introduction, and, after reading a few lines, declared that the book was not one of Galen's works. When Galen was still young, he wrote three commentaries on the throat and lungs for a fellow student who wished to have something to pass off as his own work upon his return home. This friend died, however, and the books got into circulation. Galen also complains that notes of his lectures which he had not intended for publication have got abroad, that his servants have stolen and published some of his manuscripts, and that others have been altered, corrupted, and mutilated by those into whose possession they have come, or have been passed off by them in other lands as their own productions. On the other hand, some of his pupils keep his teachings to themselves and are unwilling to give others the benefit of them, so that if they should die suddenly, his doctrines would be lost. His own ideal has always been to share his knowledge freely with those who sought it, and if possible with all mankind. At least one of his works was taken down from his dictation by short-hand writers, when, after his convincing demonstration by dissection concerning respiration and the voice, Boëthus asked him for commentaries on the subject and sent for stenographers. Although Galen in his travels often purchased and carried home with him large quantities of drugs, when he made his first trip to Rome he left all his library in Asia.

Galen dates the practice of falsifying the title pages and contents of books back to the time when kings Ptolemy of Egypt and Attalus of Pergamum were bidding against each other for volumes for their respective libraries. At that time works were often interpolated in order to make them larger and so bring a better price. Galen speaks more than once of the deplorable ease with which numbers, signs, and other abbreviations are altered in manuscripts. A single stroke of the pen or slight erasure will completely change the meaning of a medical prescription. He thinks that such alterations are sometimes malicious and not mere mistakes. So common were they that Menecrates composed a medical work written out entirely in complete words and entitled *Autocrator Hologrammatos* because it was also dedicated to the emperor. Another writer, Damocrates, from whom Galen often quotes long passages, composed his book of medicaments in metrical form so that there might be no mistake made even in complete words.

Galen's works contain occasional historical information concerning many other matters than books and drugs. Clinton made much use of Galen for the chronology of the period in his *Fasti Romani*. Galen's allusions to several of the emperors with whom he had personal relations are valuable bits of source-material. Trajan was, of course, before his time, but he testifies to the great improvement of the roads in Italy which that emperor had effected, comparing his own systematic

treatment of medicine to the emperor's great work in repairing and improving the roads, straightening them by cut-offs that saved distance, but sometimes abandoning an old road that went straight over hills for an easier route that avoided them, filling in wet and marshy spots with stone or crossing them by causeways, bridging impassable rivers, and altering routes that led through places now deserted and beset by wild beasts so that they would pass through populous towns and more frequented areas. The passage thus bears witness to a shifting of population. Galen also sheds a little light on the vexed question of the number of persons in the empire, if Pergamum is the city he refers to in his estimate of 40,000 citizens or 120,000 inhabitants, including women and slaves but perhaps not children.

The evils of ancient slavery are illustrated by an incident which Galen relates to show the inadvisability of giving way to one's passions, especially anger. Returning east from Rome, Galen fell in with a traveler from Gortyna in Crete. When they reached Corinth, the Cretan sent his baggage and slaves to Athens by boat, but himself with a hired vehicle and two slaves went by land with Galen through Megara, Eleusis, and Thriasa. On the way the Cretan became so angry at the two slaves that he hit them with his sheathed sword so hard that the sheath broke and they were badly wounded. Fearing that they would die, he then made off to escape the consequences of his act, leaving Galen to look after the wounded. But later he rejoined Galen in penitent mood and wished Galen to administer a beating to him for his cruelty. Galen adds that he himself, like his father, had never struck a slave with his own hand and had reproved friends who had broken their slaves' teeth with blows of their fists. Other men were accustomed to kick their slaves or gouge their eyes out. The emperor Hadrian was said in a moment of anger to have blinded a slave with a stylus which he had in his hand. He, too, was sorry afterwards and offered the slave money, which the latter refused, telling the emperor that nothing could compensate him for the loss of an eye. In another passage Galen discusses how many slaves and how much clothing one really needs.

Galen also depicts the easy-going, sociable, and pleasure-loving society of his time. Not only physicians but men generally began the day with salutations and calls, then separated, some to the market-place and law courts, others to watch the dancers or charioteers. Others played at dice or pursued love-affairs, or passed the hours at the baths or in eating and drinking or some other bodily pleasure. In the evening they came together again at symposia which bore no resemblance to the intellectual feasts of Socrates and Plato but were mere drinking bouts. Galen, however, had no objection to the moderate use of wine, and mentions the varieties from different parts of the Mediterranean

world which were especially noted for their medicinal properties. He believed that discreet indulgence in wine aided digestion and the blood, and relieved the mind from all worry and melancholy and refreshed it. "For we use it every day." He classed wine with such boons to humanity as medicine, "a sober and decent mode of life," and "the study of literature and liberal disciplines." His three books on food values (*De alimentorum facultatibus*) supply information concerning the ancient table and dietary science.

Galen's allusions to Judaism and Christianity are of considerable interest. He seems scarcely to have distinguished between them. In criticizing Archigenes for using vague and unintelligible language and not giving a sufficient explanation of the point in question, Galen says that it is "as if one had come to a school of Moses and Christ and had heard undemonstrated laws." And in criticizing opposing sects for obstinacy Galen says that it would be easier to win over the followers of Moses and Christ. In a third passage Galen criticized the Mosaic view of the relation of God to nature, resenting it as the opposite extreme to the Epicurean doctrine of a purely mechanistic and materialistic universe. This suggests that Galen had read some of the Old Testament, but he might have learned from other sources of the Dead Sea and of apples of Sodom, of which he speaks in yet another context. According to a thirteenth century Arabian biographer of Galen, he spoke more favorably of Christians in a lost commentary upon Plato's *Republic*, admiring their morals and admitting their miracles. This last is unlikely, since Galen believed in a Supreme Being who worked only through natural law.

Like most thoughtful men of his time, Galen tended to believe in one supreme deity, but he appears to have derived this conception from Greek rather than Hebraic sources. It was to philosophy and the Greek mysteries that he turned for revelation of the deity. Hopeless criminals were for him those whom neither the Muses nor Socrates could reform. It is Plato, not Christ, whom in another treatise he cites as describing the first and greatest God as ungenerated and good. "And we all naturally love Him, being such as He is from eternity."

But while Galen's monotheism cannot be regarded as of Christian or Jewish origin, it is possible that his argument from design and supporting theology by anatomy made him more acceptable both to Mohammedan and Christian readers. At any rate he had Christian readers at Rome at the opening of the third century, when a hostile controversialist complains that some of them even worship Galen. These early Christian enthusiasts for natural science, who also devoted much time to Aristotle and Euclid, were finally excommunicated; but Aristotle, Euclid, and Galen were to return in triumph in medieval learning.